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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/389,469	09/03/1999	TAKESHI SAITO		5430

22850 7590 05/17/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
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FERRIS, DERRICK W

ART UNIT	PAPER NUMBER
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2663

DATE MAILED: 05/17/2004

24

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/389,469

Applicant(s)

SAITO ET AL.

Examiner

Derrick W. Ferris

Art Unit

2663

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,5,7,9 and 12-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7,9,12,14 and 15 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. **Claims 1, 3, 5, 7, 9, and 12-15** as filed are still in consideration for this application.
2. Examiner **withdraws** the obviousness rejection to *Puri et al.* in view of *Elaoud et al.* and *Adolph* for Office action filed 09/03/1999. As stated in the Interview Summary filed 04/09/04 the examiner has withdrawn the rejection since it may not be clear that *Puri* teaches segmentation. Please find a new non-final Office action below based on the interview and applicant's most recent response.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. **Claims 1, 9, 12, 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over "Partitioning of MPEG Coded Video Bitstreams for Wireless Transmission" to *Gharavi et al.* ("*Gharavi*") in view of U.S. Patent No. 5,825,430 A to *Adolph et al.* ("*Adolph*") and "Adaptive Use of Error-Correction Codes for Real-time Communication in Wireless Networks" to *Elaoud et al.* ("*Elaoud*").

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*

- b) the difference of differences in the claim(s) over the applied cited references;*
- c) the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 1**, for step (a) *Gharavi* in figure 1 discloses segmenting an MPEG macroblock (i.e., MPEG packet) using a bitstream separation where the result is figure 2 or two partitioned macroblocks (i.e., MPEG packet segments). Shown in figure 1, using the optional error correction, each partition receives a different FEC (e.g., FEC for stream 1 and FEC for stream 2). Thus *Gharavi* teaches a means for dividing a packet to be transmitted into segments to form a plurality of packet segments. *Gharavi* further teaches a means for carrying out an error correction process on each packet segment with the selected error correction scheme and a means for transmitting each processed packet segment to a network via the mobile radio channel.

For step (b) *Gharavi* is silent or deficient to the further limitation the error resistance being determined at least by the content of each packet segment. In particular, *Gharavi* teaches that the packets are separated based on error-resilience requirements (see first paragraph in Introduction on page 153) but it may not be clear that the error-resilience requirements are based on content (i.e., *Gharavi* teaches partitioning in order of decreasing visual importance, see second paragraph in introduction on page 153). Assuming, *arguendo*, that visual importance is not based on content, examiner notes the following obviousness rejection applies as well.

*Adolph* teaches the further recited limitation above at e.g., column 2, lines 1-13.

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Gharavi* clarifying that the partitioning is also done based on content.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation the error resistance being determined at least by the content of each packet segment. In particular, the motivation for modifying the reference or to combine the reference teachings would be to provide a higher error correction to the header of the MPEG packet. In particular, *Adolph* cures the above-cited deficiency by providing a motivation found at e.g., column 2, lines 1-13 which discloses that special correction should be provided to headers. As shown in figure 2 of *Gharavi*, one partition contains the header and the other partition does not thus teaching a motivation to provide a higher error correction to the partition with the header. Second, there would be a reasonable expectation of success since both references teach applying error correction to an MPEG packet. Thus the references either in singular or in combination teach the above claim limitation. What may also be at issue is the concept that a different error correction scheme is selected for *each* segment. Examiner notes this is implicitly taught in figure 1 of *Gharavi* since either FEC1 or FEC2

Art Unit: 2663

is applied. However, to further support the concept the examiner notes that *Elaoud* further clarifies that *any* error correction can be applied to *any* packet, see middle left-hand column at page 549.

As to **claim 9**, see similar rejection for claim 1.

As to **claim 12**, see similar rejection for claim 1.

As to **claims 14 and 15**, see similar rejection for claim 1.

5. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over “Partitioning of MPEG Coded Video Bitstreams for Wireless Transmission” to *Gharavi et al.* (“*Gharavi*”) in view of U.S. Patent No. 5,825,430 A to *Adolph et al.* (“*Adolph*”) and “Adaptive Use of Error-Correction Codes for Real-time Communication in Wireless Networks” to *Elaoud et al.* (“*Elaoud*”) in further view of U.S. Patent No. 6,141,788 A to *Rosenberg et al.* (“*Rosenberg*”).

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) *the difference of differences in the claim(s) over the applied cited references;*
- c) *the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) *an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 3**, for step (a) *Gharavi*, *Adolph*, and *Elaoud* teach the limitations in the parent claim.

For step (b) *Gharavi*, *Adolph*, and *Elaoud* may be silent or deficient to the further limitation means for negotiating with another communication node connected to the network, prior to transferring the plurality of packet segments, the error correction

Art Unit: 2663

scheme to be employed in relation to particular packet segments. Examiner notes that the scheme taught by *Gharavi* is statically negotiated thus anticipating the claim limitation. However, assuming applicant meant dynamically negotiated, the examiner also notes the following obviousness rejection below.

*Rosenberg* teaches the further recited limitation above at e.g., column 1, lines 35-60 (i.e., both in the prior art taught in the background and *Rosenberg's* instant invention).

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Gharavi*, *Adolph*, and *Elaoud* to further teach a dynamically negotiated scheme.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation means for negotiating with another communication node connected to the network, prior to transferring the plurality of packet segments, the error correction scheme to be employed in relation to particular packet segments. In particular, the motivation for including a dynamically negotiated scheme is to increase the reception quality when loss rates are high. In particular, *Rosenberg* cures the above-cited deficiency by providing the same motivation found at e.g., column 1, lines 33-34. Second, there would be a reasonable

expectation of success since the references apply FEC coding. Thus the references either in singular or in combination teach the above claim limitation.

6. **Claims 5 and 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over “Partitioning of MPEG Coded Video Bitstreams for Wireless Transmission” to *Gharavi et al.* (“*Gharavi*”) in view of U.S. Patent No. 5,825,430 A to *Adolph et al.* (“*Adolph*”) and “Adaptive Use of Error-Correction Codes for Real-time Communication in Wireless Networks” to *Elaoud et al.* (“*Elaoud*”) in further view of U.S. Patent No. 6,658,242 B1 to *Knutson et al.* (“*Knutson*”).

In making a proper obviousness rejection under MPEP 706.02(j), the examiner will address the following four steps:

- a) *the relevant teachings of the prior art relied upon, preferably with reference to the relevant column or page number(s) and line numbers where appropriate;*
- b) *the difference of differences in the claim(s) over the applied cited references;*
- c) *the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter; and*
- d) *an explanation why one skilled in the art at the time of the invention was made would have been motivated to make the proposed modification.*

As such to **claim 5**, for step (a) *Gharavi*, *Adolph*, and *Elaoud* teach the limitations in the parent claim.

For step (b) *Gharavi*, *Adolph*, and *Elaoud* may be silent or deficient to the further limitation *each* of the said plurality of packet segments has a field identifying the selected error correction scheme, said communication node further comprises means for identifying, in said field, said information corresponding to the selected error correction scheme.

*Knutson* teaches the further recited limitation above at e.g., figure 2.



Art Unit: 2663

For step (c), the proposed modification of the above-applied reference(s) necessary to arrive at the claimed subject matter would be to modify *Gharavi, Adolph*, and *Elaoud* to further teach that each of the packet segments has an FEC field.

In order to establish a prima facie case of obviousness for step (d), three basic criteria must be met. The three criteria according to MPEP 706.02(j) are as follows:

*First there must be some suggestion or modification, either in the reference(s) themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.*

As such, for step (d) examiner notes that it would have been obvious to one skilled in the art prior to applicant's invention to include the further limitation *each* of the said plurality of packet segments has a field identifying the selected error correction scheme, said communication node further comprises means for identifying, in said field, said information corresponding to the selected error correction scheme. In particular, the motivation that each of the packet segments contains a FEC field is so that the decoder knows what FEC algorithm is applied. In particular, *Rosenberg* cures the above-cited deficiency by showing that an FEC field is applied to each packet segment. Second, there would be a reasonable expectation of success since the references apply FEC coding. Thus the references either in singular or in combination teach the above claim limitation.

As to **claim 7**, see similar rejection to claim 5. For the rejection the examiner assumes that the parameters are statically negotiated. Should applicant amend the claim

Art Unit: 2663

to further recite dynamically negotiated then the examiner would withdraw the rejection for claim 7.

***Allowable Subject Matter***

7. **Claim 13** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US006405338B1 discloses selecting an error correction code based on error sensitivity, see e.g., column 8, lines 33-60 and column 9, lines 12-29.
- US006157642A discloses providing separate FEC to the header and payload, see e.g., column 7, lines 25-46.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Derrick W. Ferris whose telephone number is (703) 305-4225. The examiner can normally be reached on M-F 9 A.M. - 4:30 P.M. E.S.T.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (703) 308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2663

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Derrick W. Ferris  
Examiner  
Art Unit 2663

  
DWF

  
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TECHNOLOGY CENTER 2600 8/13/04